

# Science and Math in Storytimes



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Presented by Kim Lehman  
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# Early Science and Math Memories



Science is  
Everywhere!

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by Kim Lehman

# Welcome!

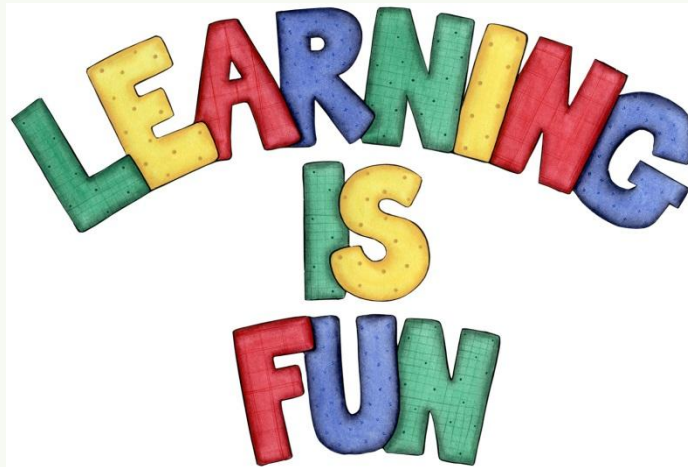
- Freelance educator, storyteller and musician
- 30 years experience working with preschool children
- Writes and designs a column for kids in Bee Culture Magazine
- Author of “Beekeeper’s Lab: 52 Family Friendly Activities and Experiments Exploring the Life of the Hive” coming out May 2017



Kim Lehman

# Agenda

- Concept learning for young children
- Hands-on science and math activities
- Science and math in storytimes



# Concept Learning for Young Children

- Repetition
- Make comparisons and connections
- Observation
- Questions and predictions
- Summarizing



# Concept Learning for Young Children

- Three P's
  - Playful
  - Purposeful
  - Planned
- Three E's
  - Exposure
  - Experience
  - Explorations



# Math Concepts

What are some math concepts for young children?

Counting

Adding

Subtracting

Shapes

Measuring

Weight

Size

Patterns

Sorting

Compare/contract

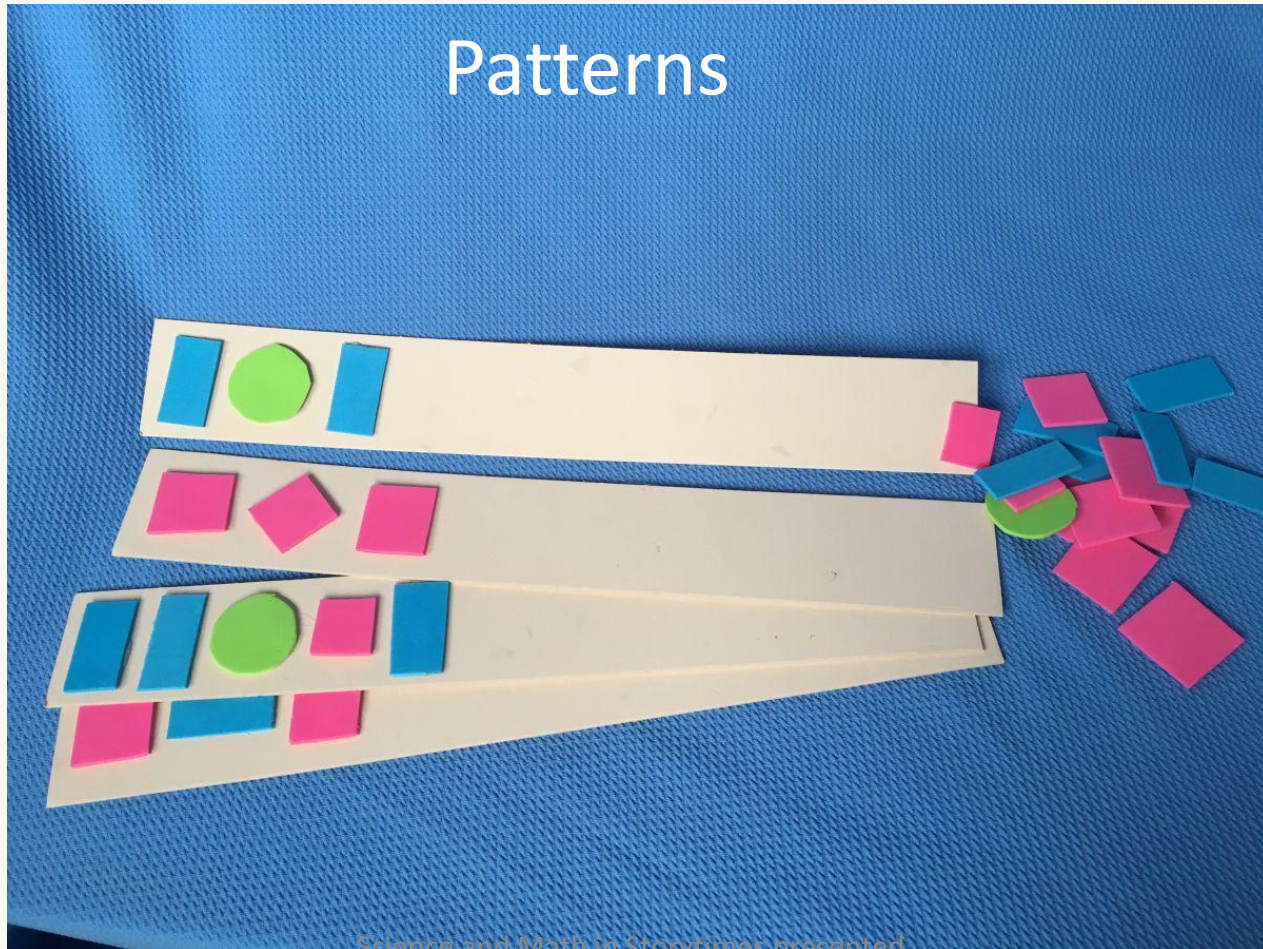
Graphing

One to one correspondence



# Hands-On Activities

## Storytime Extensions





# Hands-On Activities

## Storytime Extensions

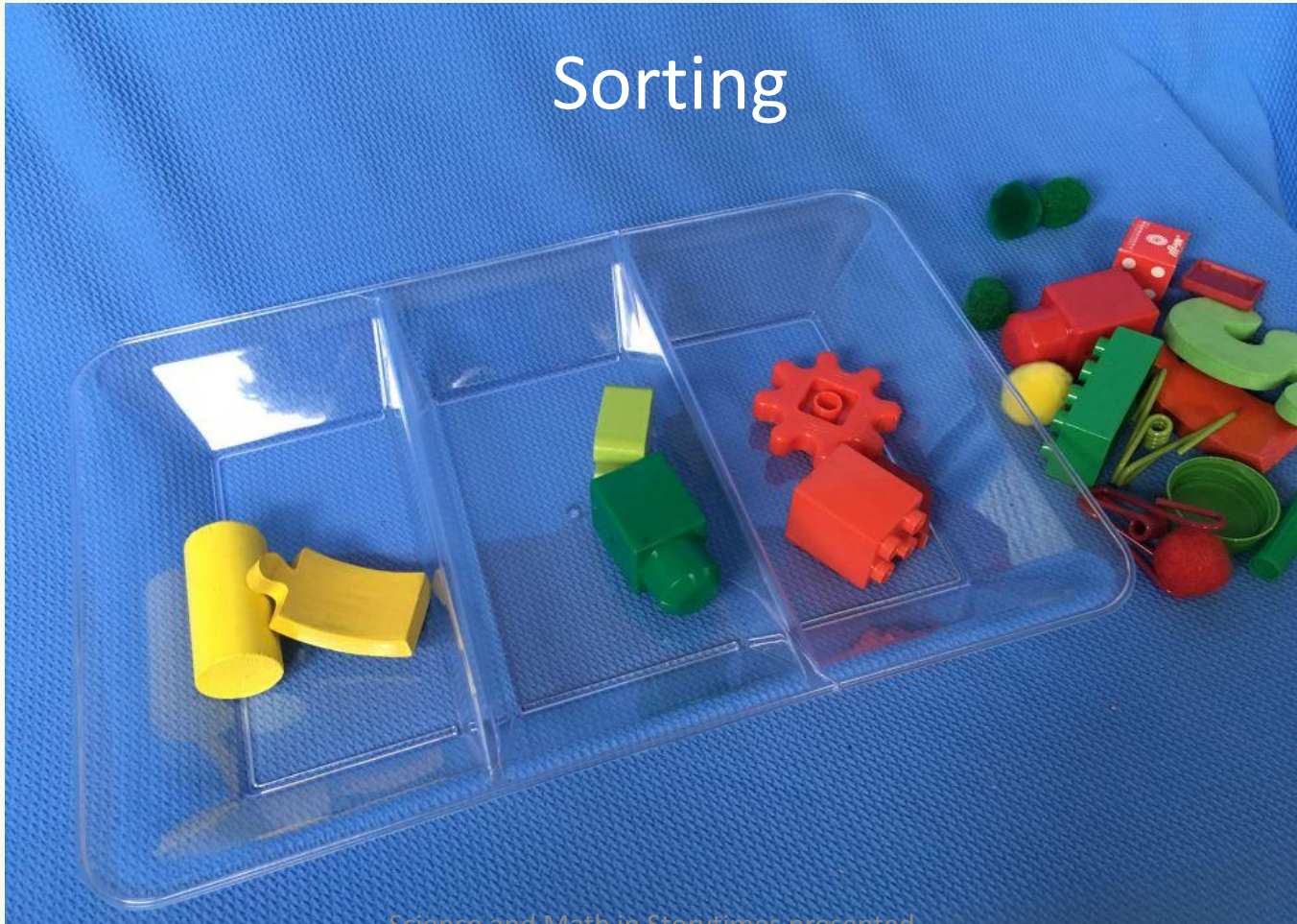
### Sorting



# Hands-On Activities

## Discovery Center

### Sorting





# Hands-On Activities

## Discovery Center

Counting



Mt Pleasant Library

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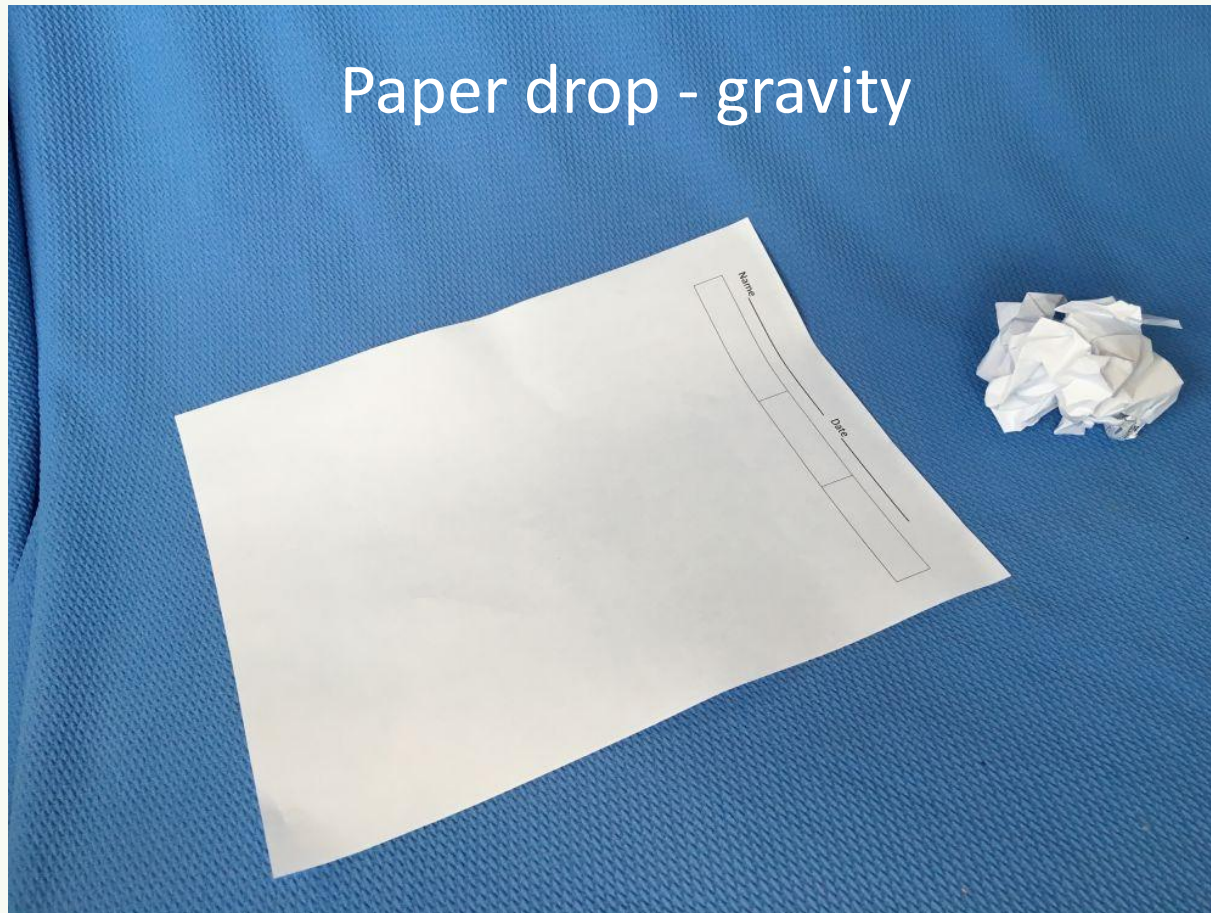
# Science Concepts

What are some science concepts for young children?

- Sink and float
- Magnetism
- Motion of objects
- Volume
- Temperature –hot and cold
- Sun helps plants grow
- See the results of heat or light – boiling water, shadow games
- Characteristics of animals
- Compare differences and similarities of animals
- Living things have needs – water, air, light, nutrition
- Sort living and non-living
- Life cycle of plants and animals
- Animal homes and habitats
- Earth materials – their properties and uses
- Changes in the earth and sky
- Weather
- Shadows
- Objects in the sky
- Clouds, sun, stars, moon, rainbows

# Hands-On Activities

## Storytime Extensions



# Hands-On Activities

## Storytime Extensions



Color mixing bottles

<http://familylicious.com/color-mixing-discovery-bottles/>



Weather - Tornado in a jar



# Hands-On Water Explorations

- Storytime demonstrations and extenders
  - Water
  - Water cycle
  - Buoyancy
  - Weather
  - Seasons
- Science program with stations
- SRP kick off or finale
- Activities to do at home





# Hands-On Water Explorations

## Buoyancy and Volume



- Foil boats

# Hands-On Water Explorations

## Buoyancy and Volume

- Sink or float
- Measuring fun



# Hands-On Science Programs

## Weather and Seasons

- Cloud in a jar

<http://www.teachpreschool.org/2012/03/10/clouds-in-jars-and-on-the-table-top-too/>

- Frost

<http://lifewithmoorebabies.blogspot.com/2013/02/diy-frost.html>

- Ice cube fishing

<http://www.notimeforflashcards.com/2010/10/ice-fishing-and-color-mixing.html>





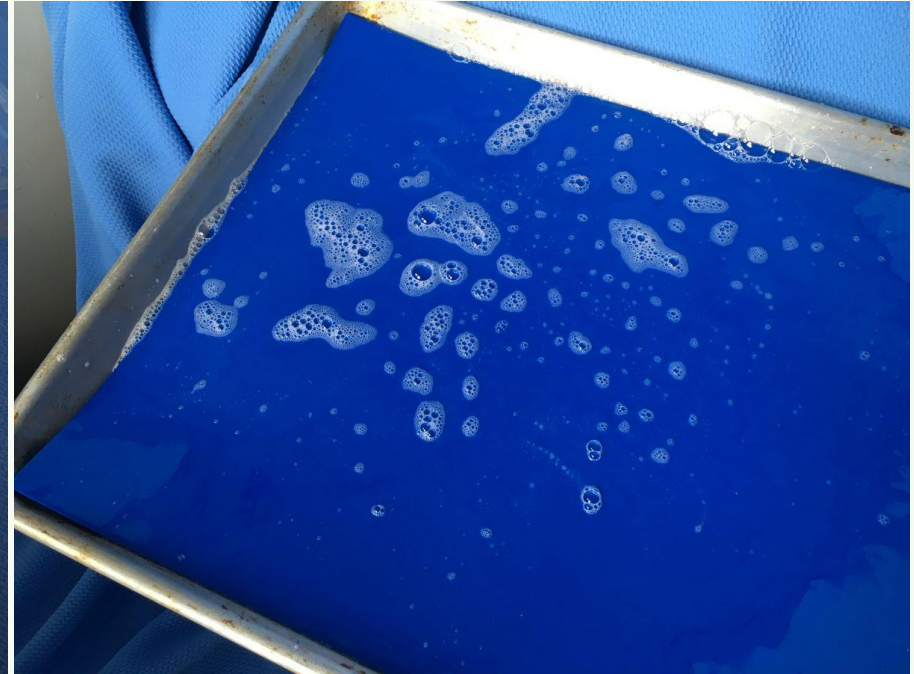
# Hands-On Science Programs

## Compare and Contrast



Water absorption

<http://kidsactivitiesblog.com/23909/hands-on>



Bubble tray

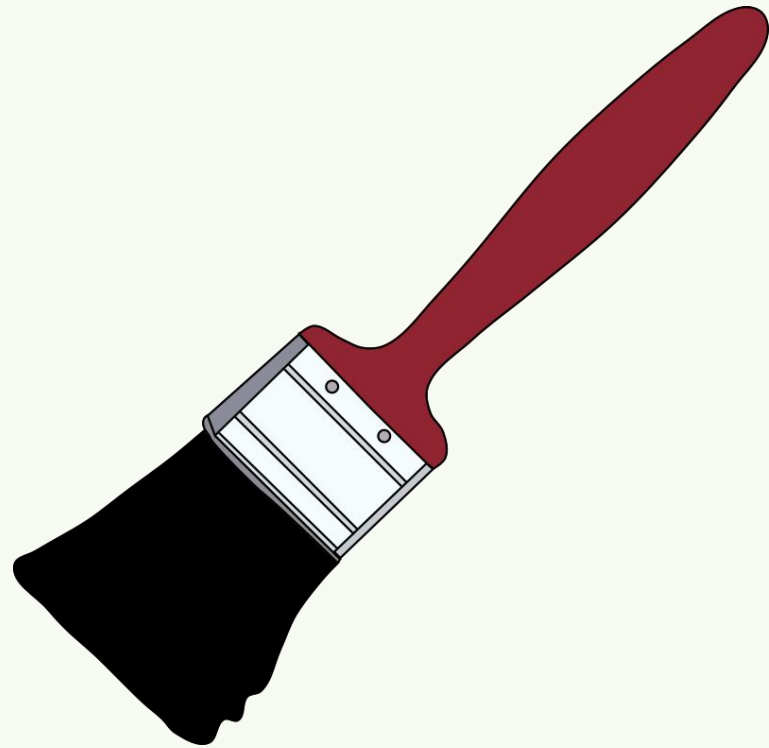
# Hands-On Science Programs

## Surface Tension and Evaporation

- Pepper float –  
surface tension

<https://www.youtube.com/watch?v=2suY9h7xnKg>

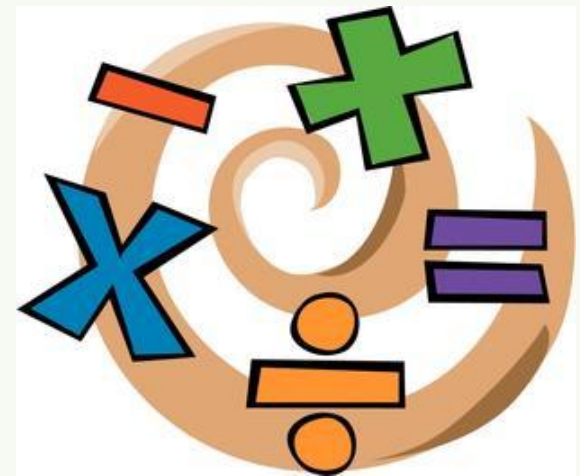
- Paint with water



# Science and Math in Storytimes

## Benefits

- Read-aloud activity – first exposure to a concept
- Vocabulary
- Conceptual understanding requires repetition and varied experiences



# Incorporating Science and Math in Storytimes

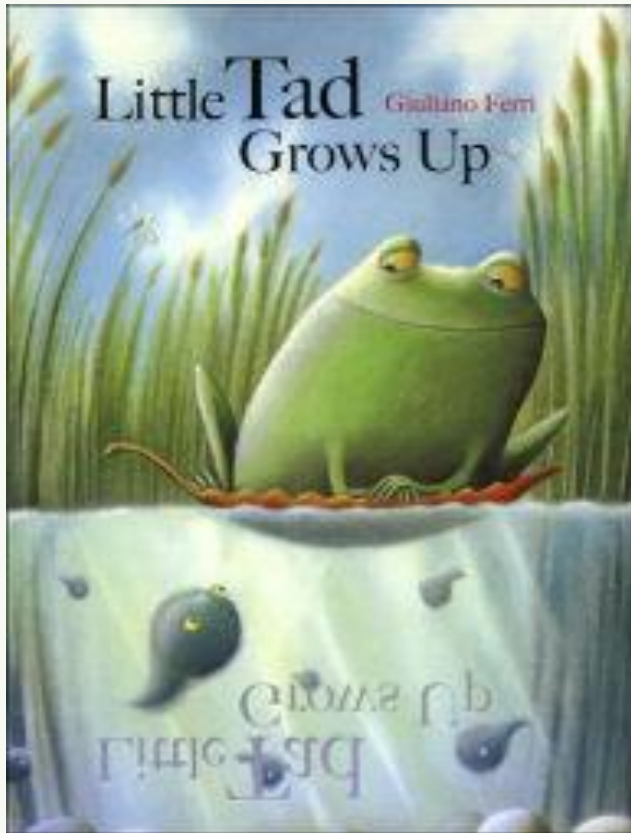
- Fiction and nonfiction books
- Fingerplays and poems
- Songs
- Activities
- Art
- Hands-on and storytime extensions
- Resources for parents





# Frog Storytime

## Life Cycle - Metamorphosis

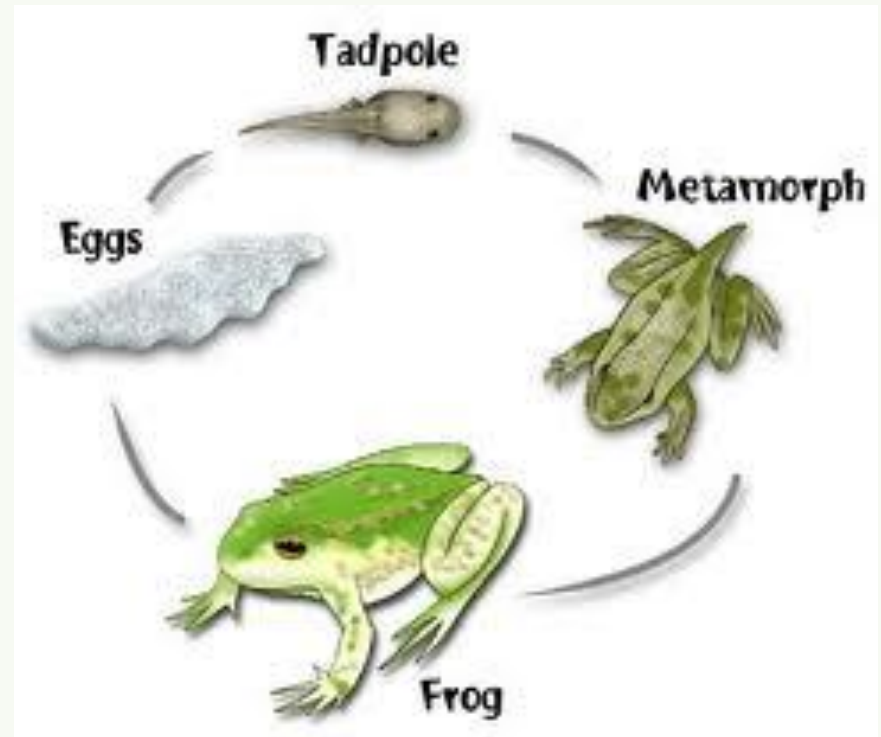


- Book - ***Little Tad Grows Up*** by Giuliano Ferri
- Song - (tune: Frere Jacques)  
Little tadpole, Little tadpole  
Lost his tail, lost his tail.  
Now she has two feet  
Now she has four feet  
Look a frog! Look a frog!

# Frog Storytime

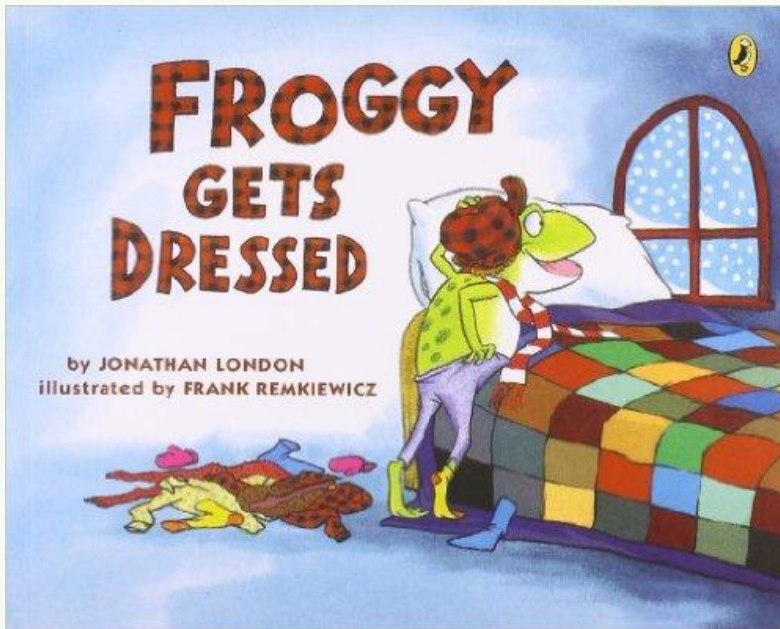
## Life Cycle - Metamorphosis

- Video - Frog Life Cycle  
<https://www.youtube.com/watch?v=ZUiOpNEObVg>
- Nonfiction Books
- Craft - Life cycle of a frog
- Exploration Extensions
  - Live frogs to observe



# Frog Storytime

## Winter and Hibernation

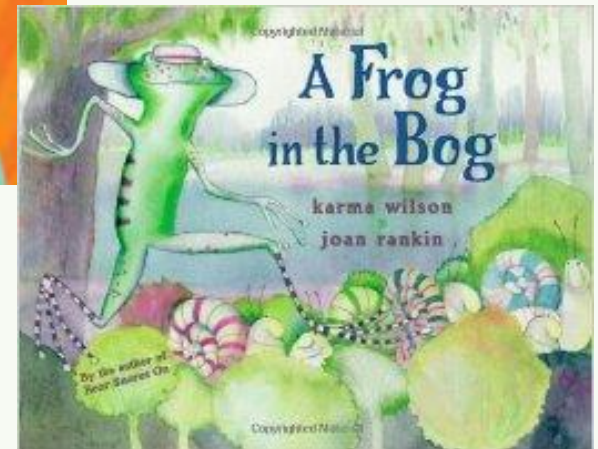
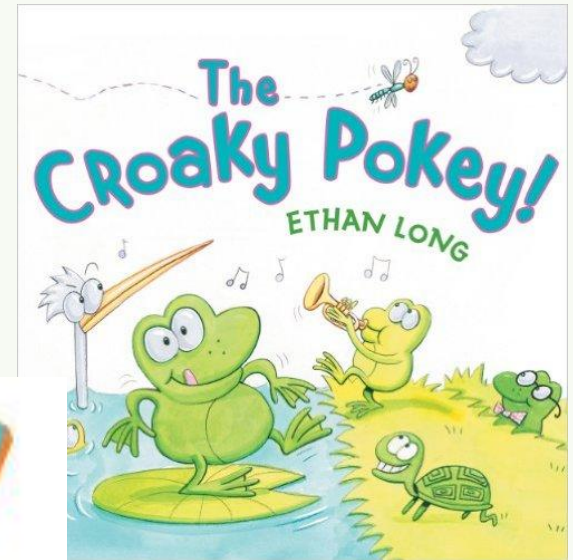
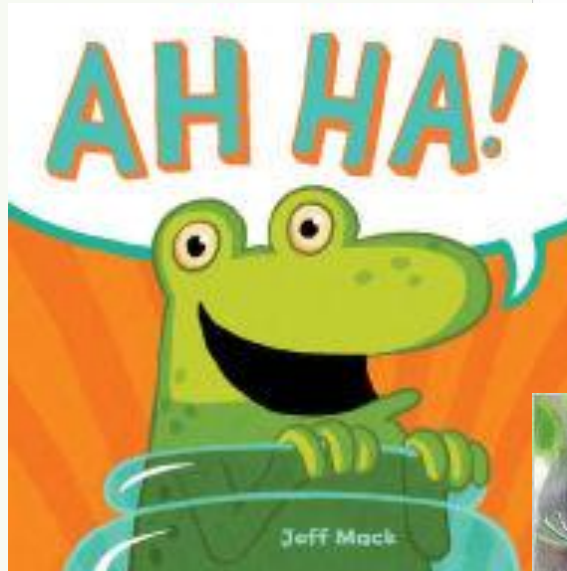


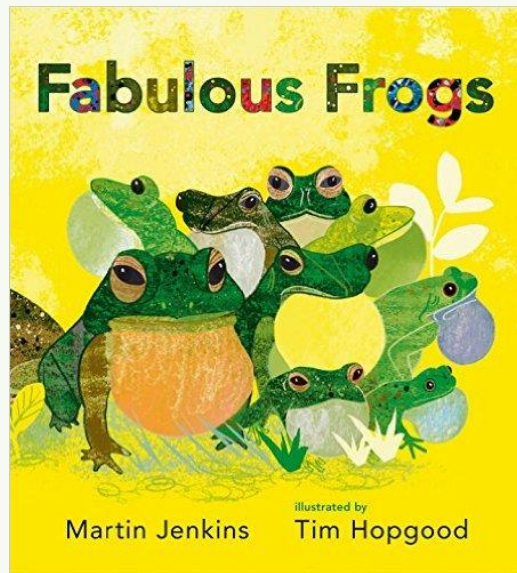
- Book - ***Froggy Gets Dressed*** by Jonathan London
- Song - Hibernation Song  
<https://www.pinterest.com/pin/344666177711661225/>
- Concept - Warm and cold
- Exploration Extensions
  - Frost
  - Ice cubes

# Frog Storytime

## Books: Food for Frogs

- ***The Croaky Pokey!***  
by Ethan Long
- ***Ah Ha!***  
by Jeff Mack
- ***A Frog in the Bog***  
by Karma Wilson





# Frog Storytime

## Books: Characteristics of Frogs

- ***Fabulous Frogs***  
by Martin Jenkins
- ***Noisy Frog Sing-Along***  
by John Himmelman





# Frog Storytime

## Food for Frogs Craft



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# Math Fingerplay

Five little froggies sitting on a well,  
One peeked in and down he fell.  
Froggies jumped high.  
Froggies jumped low.  
Froggies jumped everywhere to  
and fro!





# Song

## A Frog on My Toe

(Tune: There's a Spider on the Floor)

There's a frog on my toe, on my toe...I wish that he would go,

There's a frog on my knee...he's as slimy as can be...

There's a frog on my thigh...boy, he can sure jump high...

There's a frog on my tummy...and he's looking pretty yummy...

There's a frog on my shoulder...look at him, he's getting bolder...

There's a frog on my head...oh, and I want to go to bed...

There's a frog on my nose...uh, oh, thar' she blows...Ahhhchooo!

# Movement

## **Little Green Frog**

Little green frog,  
Hop on four feet, four feet.

Little green frog,  
Hop on three feet, three feet.

Little green frog,  
Hop on two feet, two feet.

Little green frog,  
Hop on one foot, one foot.

Little green frog,  
Sit on no feet, no feet.

How many times  
can you hop in one  
minute?



# Literacy Activity

## Phonological Awareness



- Alliteration examples
  - Funny frog
  - Tiny tadpole

# Hands-On

## Storytime Extensions or Discovery Centers

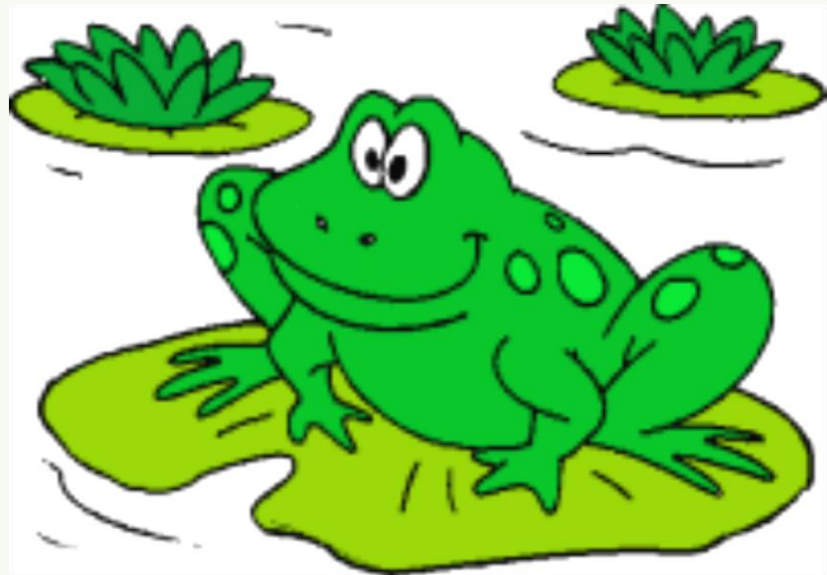
- Metamorphosis cards
- Pattern cards – different kinds of frogs



# Hands-On

## Storytime Extensions or Discovery Centers

- Sorting
  - Number of legs
  - Habitat
- Lily pad Counting
- Frog Count



# Parents

- Write a poem about frogs
- Handout
- Video to watch
  - Frog Life Cycle

Tadpole  
Small, brown  
Swimming, swishing, wiggling  
Tadpole



# Questions?



# Thank You!

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